

REMARKS

Enclosed are two sheets of marked-up, amended drawings, Pages 1 and 18, each of which has been labeled "Annotated Sheet". Proposed changes to Sheets 1 and 18 are shown in red ink.

In particular, Figure 1 on Sheet 1 has been amended to include reference numeral 118, which refers to the upper horizontal member of sliding cylinder 121. This corresponds with upper horizontal member 318 of sliding cylinder 321 in Figure 3, for comparison purposes. Paragraph [0069] of applicants' specification has been amended, as set forth above, to include reference to upper horizontal member 118 and vertical member 134 (which was numbered, but was not previously referenced in the specification). The amendments to Figure 1 and to Paragraph [0069] are supported at page 7, lines 4 - 6, of Paragraph [0023] of applicants' originally filed specification.

Figure 10 on Sheet 18 has been amended to include reference numeral 1800, which refers to the process diagram for the stainless steel treatment method. The amendment to Figure 10 is supported at page 31, lines 11 - 13, of Paragraph [0106] of applicants' originally filed specification.

Enclosed herewith are duplicate sets of Replacement Formal Drawings for Pages 1 and 18, which incorporate the changes to Figures 1 and 10 described above, and which are shown on Annotated Sheets 1 and 18. If applicants' proposed amendments to the drawings and specification are acceptable to the Examiner, the Examiner is respectfully requested to replace the previously submitted formal drawings with the Replacement Formal Drawings enclosed herewith. If applicants' proposed amendments are not acceptable to the Examiner, the Examiner is respectfully requested to contact applicants' attorney at the phone number listed below as soon as possible.

Applicants contend that the presently pending claims are in condition for allowance, and the Examiner is respectfully requested to enter the requested amendments and to pass the application to allowance.

The Examiner is invited to contact applicants' attorney with any questions or suggestions,
at the telephone number provided below.

Respectfully submitted,

A handwritten signature in cursive script, reading "Shirley L. Church", written over a horizontal line.

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IN THE DRAWINGS:

Enclosed is a set of eighteen (18) sheets of drawings, which have been labeled "Annotated Sheets". Proposed changes to Sheets 1 and 18 of the drawings are shown in red ink. These proposed changes are discussed in detail in the "REMARKS" section below.

IN THE TITLE:

At page 1, lines 1 - 2, please amend the Title as follows:

-- MICROMACHINED INTEGRATED FLUID DELIVERY SYSTEM ~~WITH DYNAMIC~~
~~METAL SEAT VALVE AND OTHER COMPONENTS~~ FOR SEMICONDUCTOR PROCESSING
EQUIPMENT --

IN THE SPECIFICATION:

Please amend Paragraph [0069], at page 16, line 26, through page 17, line 11, as follows:

[0069] The sliding cylinder 121 has an upper horizontal member 118 connected to a smaller, lower horizontal member 116 by a vertical member 134. When the valve 100 is in the closed position, the fluid flow is interrupted by a section of the diaphragm 102 being pressed tightly against an upper surface 119 of the metal valve seat 114 by lower horizontal member 116 of sliding cylinder 121. The lower surface 123 of lower horizontal member 116 is convex-shaped, so that it can act as a backing disk behind diaphragm 102. Lower horizontal member 116 is considered to be part of drive section 106, since lower horizontal member 116 is not wetted by fluids passing through valve 100. The diaphragm 102 may be free-moving, or may be bonded to the convex surface 123 of lower horizontal member 116, for example, by e-beam welding, or direct bonding, or other bonding techniques known in the art. The convex surface 123 of lower horizontal member 116 which contacts diaphragm 102 is typically made of a material which has a hardness less than that of the diaphragm material. If the diaphragm 102 is made of a nickel-cobalt alloy (for example, and not by way of limitation, ELGILOY®, SPRON™ 510, SPRON™ 100, HASTELLOY®, or

INCONEL®), the convex surface 123 may be made of 304 stainless steel, by way of example, and not by way of limitation.



Inventor: Mark Crockett et al.
Serial No.: 10/617,950
Title: Micromachined, Integrated Fluid Delivery System . . .
Docket No.: AM-6051.P1
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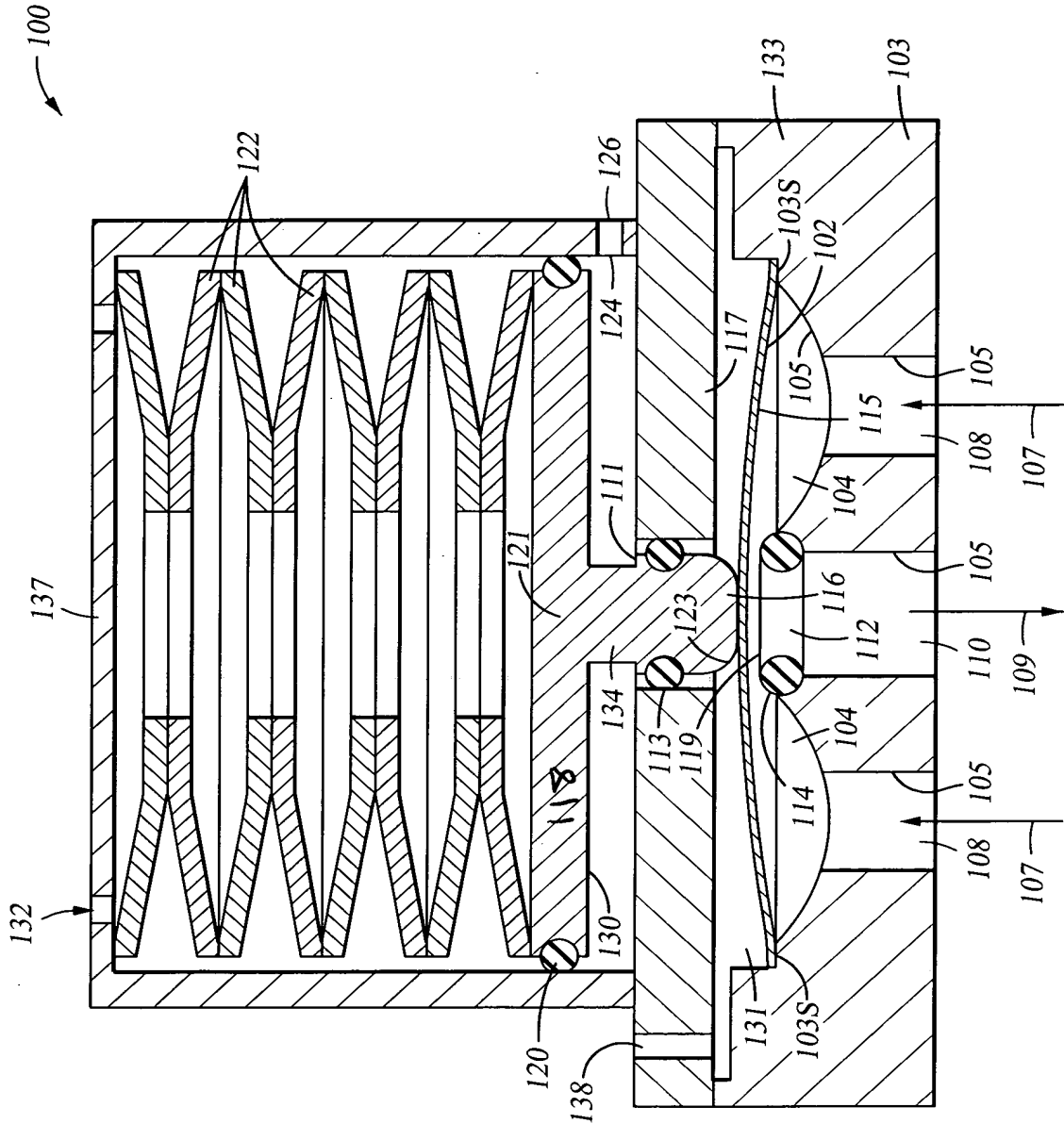


Fig. 1

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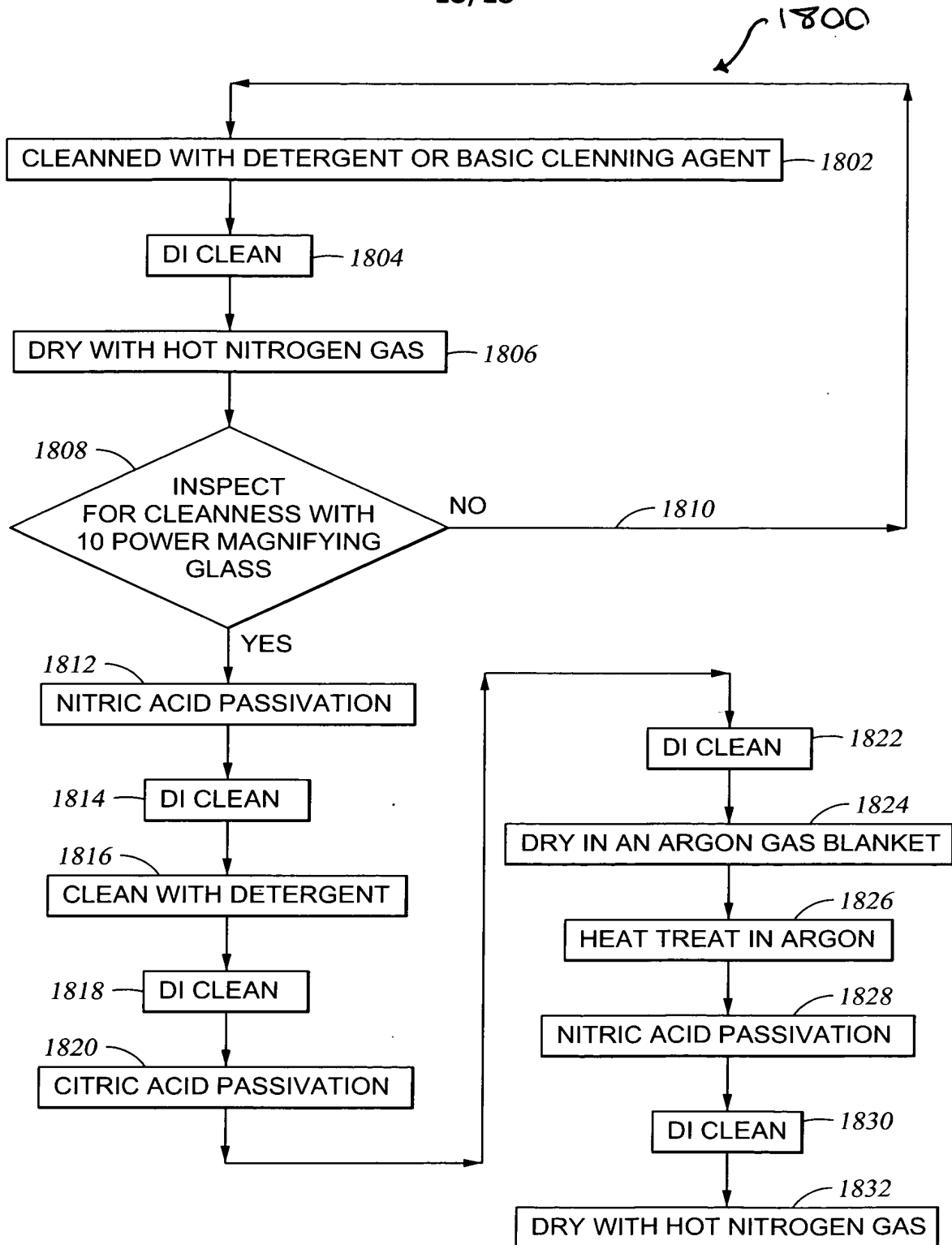


Fig. 10